

# Science

## Grade 4

*Second Term 2022*

# March Revision

*Mr. Ahmed Elbasha*

Unit Two (Concept 3 – Lesson 6)  
Unit Two (Concept 4)  
Unit three (Concept 1)  
Unit Three (Concept 2 – Lesson 1 & 2)

\* طبقاً لأخر تعديل في المادة للعام الدراسي 2021-2022



# March Revision

**Mr. Ahmed Elbasha**

✱(1) Choose the right answer :

**1. Most cars around us use ..... as a fuel.**

- a. gasoline                      b. sunlight                      c. batteries                      d. water

**2. Electric vehicles have ..... that must be charged.**

- a. doors                      b. fuel                      c. batteries                      d. tires

**3. When the objects collide with each other, ..... is transferred between them.**

- a. time                      b. distance                      c. energy                      d. nothing

**4. Collisions usually produce .....**

- a. solar energy.                      b. sound energy.  
c. gravitational potential energy.                      d. chemical potential energy.

**5. When a car stops suddenly, the passengers move .....**

- a. backward.                      b. forward.                      c. upward.                      d. downward.

**6. If we hit a ball with a wooden bat, the energy of the wooden bat .....**

- a. will remain as it is in the wooden bat.  
b. will transform into light energy in the ball.  
c. will transfer into the ball.  
d. will be destroyed and no longer be existed.

**7. A very big truck needs ..... to move.**

- a. very small engine                      b. small engine  
c. very big engine                      d. no engine

**8. If an object moves down along a ramp, as the angle of the ramp increases the speed of the object will .....**

- a. decrease.                      b. increase.                      c. not change.                      d. become zero.

**9. As the mass of a vehicle increases, it needs ..... to move so it has .....**

- a. less force - less potential energy.                      b. more force - more potential energy.  
c. less force - less kinetic energy.                      d. more force - more kinetic energy.

**10. The people who work on determining the amount of damage that happens in accidents, are known as .....**

- a. doctors.                      b. teachers.                      c. crash investigators.                      d. forest investigators.

**11. In the battery of a toy car ..... energy changes into electrical energy.**

- a. chemical                      b. sound                      c. light                      d. thermal

**12. The energy source in a toy car is the .....**

- a. engine.                      b. tires.                      c. battery.                      d. fuel.

**13. It takes several ..... for a spacecraft to travel from Earth to Mars.**

- a. seconds                      b. minutes                      c. days                      d. months

**14. Curiosity rover is designed to explore .....**

- a. Earth planet.                      b. Mars planet.                      c. the Sun.                      d. the moon.

**15. In the washing machine, the ..... energy changes into kinetic and sound energies.**

- a. light                      b. thermal                      c. electrical                      d. potential

**16. You feel warm when you rub your hands together, because ..... energy changes into thermal energy.**

- a. kinetic                      b. light                      c. electrical                      d. sound

**17. Plants can convert the light energy from the Sun into ..... energy which is stored inside the plant in the form of sugar.**

- a. sound                      b. electrical                      c. chemical                      d. kinetic

**18. In the electric water kettle, the electrical energy changes into ..... energy that can warm the cold water inside it.**

- a. sound                      b. thermal                      c. light                      d. kinetic

**19. Inside a light bulb, electrical energy changes into ..... and ..... energies.**

- a. sound - light                      b. sound – thermal  
c. kinetic - light                      d. light - thermal

**20. The input energy when using the hair dryer is the ..... energy.**

- a. electrical                      b. potential                      c. kinetic                      d. thermal

**21. Sound and ..... energies are from output energies when operating the mobile phone.**

- a. electrical                      b. potential  
c. chemical                      d. light

**22. The output energy when playing drums is the ..... energy.**

- a. chemical                      b. light                      c. sound                      d. potential



**23. When a piece of coal is burnt, ..... energy is produced.**

- a. thermal                      b. kinetic                      c. sound                      d. potential

**24. Among forms of fuel that present in car fuel stations are .....**

- a. gasoline and wood.                      b. natural gas and coal.  
c. wood and coal.                      d. gasoline and natural gas.

**25. .... is considered as the main resource of energy on the Earth's surface.**

- a. Gasoline                      b. The Sun                      c. Natural gas                      d. The moon

**26. All the following are renewable resources of energy, except .....**

- a. natural gas.                      b. water.                      c. the Sun.                      d. wind.

**27. Ancient people use ..... as a form of fuel, before discovering gasoline.**

- a. electricity                      b. water                      c. wind                      d. wood

**28. The safety equipment used in cars to absorb the cars energy during collisions includes .....**

- a. airbags only.                      b. seatbelts only.  
c. airbags and seatbelts.                      d. car tires and steering wheel.

**29. All the following things are used to move cars, except .....**

- a. gasoline.                      b. food.                      c. electricity.                      d. solar energy.

**30. The two factors affecting the kinetic energy of an object are ..... of this object.**

- a. the light and the sound energies                      b. the mass and the color  
c. the mass and the speed                      d. the speed and the color

**31. Mars rover curiosity is designed to explore .....**

- a. Earth planet.                      b. Mars planet.                      c. the Sun .                      d. the moon.

**32. All forms of fossil fuel are formed .....**

- a. above the Earth's surface.                      b. under the Earth's surface.  
c. above the water surface.                      d. in the air around us.

**33. The energy that originally causes the formation of the non-renewable fuels is .....**

- a. wind energy.                      b. water energy.                      c. solar energy.                      d. electrical energy.

**34. Burning of fossil fuel produce .....**

- a. only gases that pollute the air.  
b. only thermal energy.  
c. gases that pollute the air and solar energy.  
d. thermal energy and gases that pollute the air.



## ✱(2) Complete the following:

1. Among safety equipment which are used during collision of cars ..... and .....
2. As a result of collision between the ball and the bat, the direction of the ball will .....
3. When objects collide with each other, ..... is transferred between them.
4. In cars, the ..... prevents the passenger from moving forward when the car stops suddenly.
5. When the speed of a car increases, its ..... energy increases.
6. A car with speed = 60 km/hr., its kinetic energy is ..... than that of another car with speed= 40 km/hr.
7. When a truck and a small car move at same speed, kinetic energy of the truck is ..... than that of the small car.
8. If the mass of a moving object decreases, its kinetic energy will ..... at the same speed.
9. In vehicles, the ..... energy that is stored in the fuel changes into ..... energy that allows them to move.
10. The Newton's cradle ball stores ..... energy when it is raised up without leaving it go.
11. A moving object continues in ..... until something ..... it.
12. To operate an electric mixer, we use ..... energy.
13. When you rub your hands together, the ..... energy is converted into ..... energy.
14. The electric lamp converts electrical energy into ..... energy and ..... energy.
15. The ..... is the primary source of energy that is transferred to the food in the form of chemical energy.
16. Some kinetic energy of the bicycle is converted into ..... energy due to the friction of its tires with the road.
17. The input energy of a hair dryer is ..... energy, while the output energies of a hair dryer are ..... energy, ..... energy and ..... energy.
18. The input energy in an electric bulb is ..... energy, while the output energies of it are ..... energy and ..... energy which doesn't help in its main function.

### ✱(3) Put ( √ ) or ( X )

1. Cars need energy to move. ( )
2. Car exhausts don't cause environmental changes. ( )
3. Electric vehicles have batteries that must be charged. ( )
4. If a car runs out of fuel, it can continue moving. ( )
5. Seatbelt is one of the safety equipment in cars. ( )
6. Fast-moving objects can be exposed to less damage than slow ones. ( )
7. Slower and lighter object has much kinetic energy. ( )
8. You must drive a car as fast as possible, because at high speeds you can avoid collisions. ( )
9. When two heavy and fast cars are in an opposite direction, collide together they produce very small amount of damage. ( )
10. When the mass of an object increases, it needs less force to move. ( )
11. A smaller and slower object has more kinetic energy than that of a larger and faster object. ( )
12. Energy cannot be transformed from one form to another. ( )
13. We can convert the solar energy into different forms of energy. ( )
14. Curiosity is a vehicle that travels across the surface of the planet Mars. ( )
15. Mars is located a few meters away from Earth. ( )
16. In the soap dispenser, potential energy changes into kinetic energy. ( )
17. Most of energy chains starts with the moon. ( )
18. Light energy from the Sun causes trees to grow. ( )
19. Both hair dryer and washing machine depend on the same kind of energy to be operated. ( )
20. Electric bulb depends on chemical energy to be operated. ( )
21. There is a stored chemical energy inside the food we eat. ( )
22. Energy can't be changed from one form to another. ( )
23. It is better before making a trip by a car; we must check the amount of gasoline in the fuel tank. ( )

- |  |        |
|--|--------|
| 24. You need gasoline to move a bicycle.                                       | (    ) |
| 25. Biofuel is one of non-renewable resources of energy.                       | (    ) |
| 26. Extreme cooling under the Earth's surface, helps in the formation of oil.  | (    ) |
| 27. We must reduce the usage of the Sun as a source of energy.                 | (    ) |
| 28. When you raise up a ball in the Newton's cradle, it stores thermal energy. | (    ) |
| 29. The car driver can avoid accidents when he moves with a slow speed.        | (    ) |
| 30. The stored energy in batteries is the light energy.                        | (    ) |



#### ✱(4) Correct the underline

1	Increasing the weight of solar vehicles causes the <u>increasing</u> of its speed.	( ..... )
2	We can calculate the speed of a solar vehicle by knowing two factors which are distance and <u>weight</u> .	( ..... )
3	Fast and heavy object has more <u>potential</u> energy than a slow and light object.	( ..... )
4	When a train at a high speed hits a car, the <u>train</u> gets more damage.	( ..... )
5	<u>Seatbelts</u> absorb the energy of the car due to its collision and gets inflated.	( ..... )
6	The speed of an object affects its <u>potential</u> energy.	( ..... )
7	All moving objects always have a <u>light</u> energy.	( ..... )
8	The larger the mass of an object, the <u>less</u> fuel it consumes.	( ..... )
9	<u>Potential</u> energy depends on the speed of an object.	( ..... )
10	When the inclination of a road decreases, the kinetic energy of an object moving on it downward <u>increases</u> .	( ..... )
11	When an object moves with a very large speed, it has a <u>small</u> amount of kinetic energy.	( ..... )
12	As the mass of a car increases, the damage that occurs during collisions <u>decreases</u> .	( ..... )
13	<u>Car tires</u> and seatbelts play an important role during accidents as they are safety equipment.	( ..... )
14	The solar energy produced from the <u>moon</u> can be converted into different forms of energy.	( ..... )
15	Curiosity is a robotic vehicle that is designed to explore the surface of <u>moon</u> .	( ..... )
16	We need <u>sound</u> energy, for cooking foods and warming houses.	( ..... )

17	The <b><u>moon</u></b> is the main source of most energies on the Earth's surface.	( ..... )
18	Fuel is the substance that produces <b><u>electrical</u></b> energy on burning.	( ..... )
19	We have to increase planting vegetables and fruits that need a <b><u>large</u></b> amount of water.	( ..... )
20	The non-renewable resources of energy take a <b><u>short</u></b> period of time to be formed under the Earth's surface.	( ..... )
21	The <b><u>moon</u></b> is the primary source of both biofuel and fossil fuel.	( ..... )
22	The rate of consumption of fossil fuel, must be <b><u>increased</u></b> .	( ..... )
23	All moving objects always have a <b><u>light</u></b> energy.	( ..... )

★(5) Choose from column (B) what suits it in column (A) :

1.

( A )	( B )
1 . Wrecking ball	a. it is one of the safety equipment in cars, that is inflated with a gas during crashes.
2. Cricket bat	b. it changes its sound energy into light energy.
3. Seatbelt	c. it is used to hit a ball during playing.
4. Airbag	d. it is one of the safety equipment in cars, that keeps passengers in their places during crashes.
	e. it is used to hit a wall during destruction of a building.

1. 2. 3. 4.

2.

( A )	( B )
1. A heavy object that doesn't move	a. has much kinetic energy
2. A fast object with a heavy mass	b. has much light energy.
3. A slow object with a light mass	c. has no kinetic energy.
	d. has low kinetic energy.

1. 2. 3. 4.

3.

( A )	( B )
1. Large-mass vehicle with 100 km/h speed.	a. It has a big amount of kinetic energy.
2. Small-mass vehicle with 20 km/h speed.	b. It has no kinetic energy.
3. Small-mass vehicle, that doesn't move.	c. It has the most thermal energy.
	d. It has a small amount of kinetic energy.

1. 2. 3. 4.



4.

( A )	( B )
1. Kinetic energy	a. it is the energy that reaches ear causing hearing.
2. Potential energy	b. it is the energy transferred from one ball to another, in Newton's cradle.
3. Light energy	c. it is the energy that doesn't exist in Newton's cradle during collision.
	d. it is the energy stored in the first ball of Newton's cradle when you rise it up.

1.

2.

3.

4.

5.

( A )	( B )
1. Wood	a. wood chips and grass.
2. Gasoline and natural gas	b. cutting of trees.
3. Coal	c. decomposition of marine animals.
4. Liquid biofuel	d. decomposition of plant remains.
	e. boiling water.

1.

2.

3.

4.

6.

( A )	( B )
1. When two cars moving in the same direction collide.	a. Fast driving.
2. When two cars moving in opposite directions collide.	b. Car tires.
3. From the safety equipment in the car.	c. Seatbelts.
4. From the elements which cause danger while driving cars.	d. Less damage occurs.
	e . More damage occurs.

1.





2.

3.

4.

# ☀(6) TRY TO ANSWER:

1. Look at the opposite figure, then answer the questions below :

			
Motorbike	Car	Truck	Train

1. The ..... has the biggest mass.

- a. motorbike                      b. car                      c. truck                      d. train

2. If the motorbike and the train move at the same speed, the kinetic energy of the train is ..... that in the motorbike .

- a. less than                      b. more than                      c. equal to                      d. half to

3. If the car, truck and motorbike move at the same speed and collide with a strong wall. Which of the following sentences is correct ? .....

- a. The car causes the most damage.                      b. The motorbike causes the most damage.  
c. The truck causes the most damage.                      d. The truck causes the least damage.

4. Which one consumes more fuel , if all of them move at the same speed ? .....

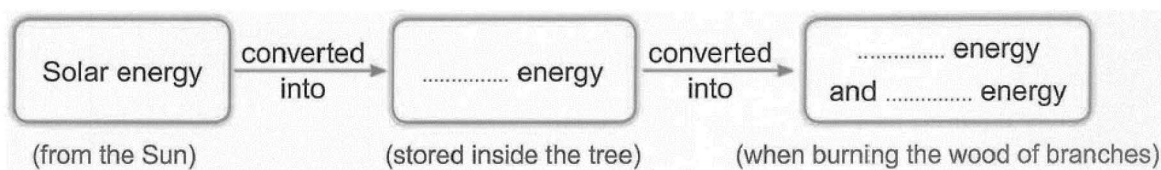
- a. Motorbike.                      b. Car.                      c. Truck.

2. Use the following words to complete the energy chains below.

(You may use the same word more than once).

(Thermal - Chemical - Kinetic - Electrical - Sound - Light)

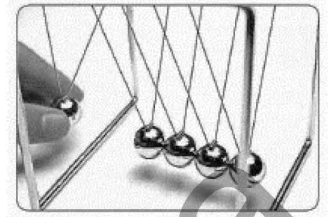
The energy chain of burning some branches of a tree :



**3. Look at the opposite figure, then choose the correct answer :**

**1. When the Newton's cradle ball is raised up without leaving it go, its ..... energy is maximum and its ..... energy equals zero.**

- a. kinetic - potential                      b. potential - kinetic
- c. kinetic - sound                          d. kinetic – thermal



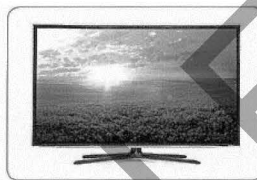
**2. When you leave the ball moves in the direction of the rest of balls some of kinetic energy of this ball changes into ..... and ..... energies.**

- a. sound - electrical                      b. thermal - kinetic
- c. kinetic – sound                         d. sound – thermal

**4. Look at these electric devices, then complete the following sentences :**



Device (1)



Device (2)



Device (3)

1. Sound and light energies are produced in the device number ..... and help it to do its function.

2. Kinetic energy is produced in devices number ..... and .....

**3. Noise from devices number ..... and ..... is wasted energy.**

4. All these devices are operated by ..... energy that is transmitted from ..... stations through wires.

**5. Look at the opposite figure, then complete using the given words:**

( Friction - transfers - destroyed – kinetic )

1. When the ball hits the bowling pins, the energy inside it ..... to the pins so they move.

2. After hitting the pins the ball stops, so its energy doesn't .....  
but it is transferred to the pins in the form of kinetic energy.

**3.** Part of the kinetic energy of the ball is converted into heat energy due to ..... with the ground.





## Model Answer

### ★(1) Choose the right answer :

1. A	7. C	13. D	19. D	25. B	31. B
2. C	8. B	14. B	20. A	26. A	32. B
3. C	9. D	15. C	21. D	27. D	33. C
4. B	10. C	16. A	22. C	28. C	34. D
5. B	11. A	17. C	23. A	29. B	
6. C	12. C	18. B	24. D	30. C	

### ★(2) Complete the following:

- |                          |  |
|--------------------------|--|
| 1. Airbag – safety belts | 12. Electric                             |
| 2. Change                | 13. Kinetic – thermal                    |
| 3. Energy                | 14. Light – heat                         |
| 4. Seatbelts             | 15. Sun                                  |
| 5. Kinetic               | 16. Thermal                              |
| 6. More                  | 17. Electric – thermal – kinetic – sound |
| 7. More                  | 18. Electric – light – thermal           |
| 8. Decrease              |  |
| 9. Chemical – kinetic    |  |
| 10. Potential            |  |
| 11. Motion – stops       |  |

### ★(3) Put ( √ ) or ( X )

1. ( √ )	6. ( X )	11. ( X )	16. ( √ )	21. ( √ )	26. ( X )
2. ( X )	7. ( X )	12. ( X )	17. ( X )	22. ( X )	27. ( X )
3. ( √ )	8. ( X )	13. ( √ )	18. ( √ )	23. ( √ )	28. ( X )
4. ( X )	9. ( X )	14. ( √ )	19. ( √ )	24. ( X )	29. ( √ )
5. ( √ )	10. ( X )	15. ( X )	20. ( X )	25. ( √ )	30. ( X )

### ★(4) Correct the underline

- |             |              |               |
|-------------|--------------|---------------|
| 1. Decrease | 9. Kinetic   | 17. Sun       |
| 2. Time     | 10. Decrease | 18. Thermal   |
| 3. Kinetic  | 11. Large    | 19. Less      |
| 4. Car      | 12. Increase | 20. Long      |
| 5. Airbag   | 13. Airbag   | 21. Sun       |
| 6. Kinetic  | 14. Sun      | 22. Decreased |
| 7. Kinetic  | 15. Mars     | 23. Kinetic   |
| 8. More     | 16. Thermal  |               |

☀(5) Choose from column (B) what suits it in column (A) :

1

1- e                      2- c                      3- d                      4- a

2

1- c                      2- a                      3- d

3

1- a                      2- d                      3- b

4

1- b                      2- d                      3- c

5

1- b                      2- c                      3- d                      4- a

6

1- d                      2- e                      3- c                      4- a

☀(6) TRY TO ANSWER:

1

1- d                      2-b                      3-c                      4-c

2

1- chemical – thermal - light

3

1- b

2- d

4

1- (2)                      2-(1), (3)                      3-(1), (3)                      4-Electric - Power

5

1- transfer                      2-destroyed                      3-friction